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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,210	12/01/2003	Hyun Bok Kim	p24574.dc2	9811
7055	7590	09/30/2004	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			FRANK, RODNEY T	
			ART UNIT	PAPER NUMBER
			2856	
DATE MAILED: 09/30/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

07

Office Action Summary	Application No. 10/724,210	Applicant(s) KIM ET AL.	
	Examiner Rodney T. Frank	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Cotton et al. (U.S. Patent Number 5, 623, 907; hereinafter referred to as Cotton). Cotton discloses a liquid propane fuel storage and delivery system for a vehicle engine with a fluid handling component module removably top-mounted on an appropriate vehicle-mounted pressurized liquid propane fuel storage tank. The module includes: (1) a fuel tank 80% stop-fill subsystem that automatically opens and closes the tank fill port to control tank fuel fill; (2) a hydrostatic back-check valve to prevent reverse fuel flow from the tank to atmosphere via the fill port; (3) an excess fuel bypass return check valve that maintains a predetermined amount of pressure in the fuel line as required to achieve acceptable engine performance; (4) a return check bypass valve that bypasses the return check valve to allow an extra amount of vapor-purging liquid fuel to be flushed through the system and returned to the tank through the fill solenoid prior to engine start-up; (5) an excess flow valve to limit fuel flow to atmosphere in case of a severed fuel line; (6) a supply solenoid valve assembly that prevents fuel flow to the engine if the solenoid is not energized; (7) a supply line over-pressure check valve to prevent a pump outlet line from being overstressed due to pressure build up; (8) a tank pressure relief valve; (9) a tank drain valve; (10) a "leak-free" electrical coupling; and (11) a fuel pod assembly housing one or two fuel pumps pumping either in parallel or series flow (Please see the abstract).

Art Unit: 2856

In regard to claim 1, Cotton discloses a fuel level system fro a vehicle including a level sender until installed in a fuel tank (see figure 1) of the vehicle and a fuel gauge, comprising a resistor installed inside or outside the level sender unit within the fuel level system to increase an electric current flowing through a contact of the level sender unit. This is basically describing a pull-up resistor being used with a typical level sender, which the use of a pull-up resistor is clearly disclosed in column 19 lines 25-31.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton et al.

5. With regard to claims 2, 4, 5, 6, 8, 9, and 10, Cotton essentially describes the fuel level system as claimed in the present invention. Though the examiner admits that Cotton does not necessarily disclose the exact arrangements as disclosed in the claims, he does disclose various embodiments that utilize various components in various arrangements. From Cotton's disclosure, it appears that the exact connection of the various components can vary, but the ending result of measurement and operation of the device is still the same. Therefore, the examiner has deemed that the various embodiments disclosed in the claims are a mere design choice which do not give any disclosed advantage over, nor cause any unexpected result in view of the Cotton reference.

With regard to claims 3 and 7, Cotton discloses in column 18 lines 46-48 that a diode is used to prevent circuit operation if connected to the inverse polarity.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The examiner has cited various references, which are deemed to be relevant to the general state of the art of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTF
September 24, 2004


HEZRON WILLIAMS
SUPERVISOR, EXAMINER
TECHNOLOGY CENTER 2800